

CLAIMS

1. An unlocking device for exteriorly unlocking and in combination with a ball hook and U-shaped catch supplemental interior door lock for a pedestrian door system, said door system including a door and doorway, said door including an exterior front, an interior back and vertical sides between said front and said back of said door, said door having an open position and a closed position relative to said doorway, said doorway including oppositely disposed vertical side jambs, said door hinged to one of said vertical side jambs, said side jambs carrying a door stop forming an L-shaped lip to receive said vertical sides of the door when in the closed position, said L-shaped lip including a substantially perpendicular corner, said L-shaped lip having one surface substantially parallel to the front of said door when in the closed position and said L-shaped lip having another surface substantially parallel to the vertical sides of said door when in the closed position, said door lock including a pivoting U-shaped catch, said catch including a catch mounting base affixed to said doorway and a pivoting U-shaped member hinged to said catch mounting base, said U-shaped member pivotally mounted at one end to said catch mounting base, a ball hook mounted to said door on the back of said door in operative relationship with said U-shaped member, said ball hook including a curved arm, said ball hook including an integral ball hook mounting base proximate one end of said curved arm, said ball hook mounting base affixed to said door, said ball hook including an integral ball-shaped tip proximate the other end of said curved arm, said U-shaped member having opposite leg portions extending from the trough of the U-shaped member, said opposite leg portions initially extending in substantial parallel relationship from said trough of said U-shaped member a predetermined length to have a door locking portion between said parallel opposite leg portions, said parallel opposite leg portions then abruptly diverging proximate said catch mounting base to have a door

unlocking portion there between adjacent said door locking portion, said door unlocking portion sized to permit said ball-shaped tip to pass freely through said U-shaped member, said door locking portion sized to slidably engage said curved arm of said ball hook and sized to prevent said ball-shaped tip from passing through said U-shaped member, said unlocking device consisting of:

- a. a single thin flat elongated resilient member for insertion exteriorly between said door and said one vertical side jamb;
- b. said resilient member at the proximal end thereof provided with a front of door contact portion for contacting the front of said door and a handle portion diverging from said front of door contact portion for permitting grasping of said handle portion exteriorly of said door;
- c. said resilient member in the operative position between said door and said one vertical side jamb, longitudinally retroverting adjacent said front of door contact portion forming a door stop corner contact edge;
- d. said resilient member in the operative position between said door and said one vertical side jamb, then extending longitudinally arcuately towards said vertical side of door and in contact therewith and then turning towards said catch mounting base forming an integral vertical side of door arched contact portion;
- e. said resilient member in the operative position between said door and said one vertical side jamb, then extending from said arched contact portion at the distal end thereof longitudinally turning abruptly away from said catch mounting base forming an integral compression recoil arm fulcrum corner;
- f. said resilient member in the operative position between said door and said one vertical side jamb, arcuately extending longitudinally from said compression recoil fulcrum corner away from said catch mounting base affixed to said doorway to form an integral recoil compression arm of predetermined length;

g. said compression recoil arm at the distal end thereof provided with a first uniform linear transverse contact surface of predetermined width for contacting said pivoting U-shaped member of said supplemental interior door lock; and,

whereby, with said unlocking device in the operative position between said door and said one vertical side jamb, said door stop corner contact edge is pressed into engagement with said door stop as said door is exteriorly closed and said side of door arched contact portion is laterally compressed between said door and said one vertical side as said compression recoil arm is compressed towards the back of said door by and in contact with said U-shaped member as said door is about fully closed,

whereupon said integral ball-shaped tip of said ball hook entering said door unlocking portion of said U-shaped member as a result of about full closure of said door, said U-shaped member instantaneously and forcefully recoils out of operative engagement with said U-shaped member.

2. The unlocking device of claim 1, wherein said first uniform linear transverse contact surface of said distal end of said compression recoil arm is of sufficient width to contact simultaneously both of said opposite leg portions of said U-shaped member.

3. The unlocking device of claim 1, wherein said compression recoil arm has a curved arm receiving slot therein of predetermined dimensions, said curved arm receiving slot dividing said integral compression recoil arm to form a pair of compression recoil arm finger members, a first of said recoil finger members provided with a second uniform linear transverse contact surface at the distal end thereof for contacting one of said opposite leg portions of said pivoting U-shaped member, a second of said recoil finger members provided with a third uniform linear transverse contact surface at the distal end thereof, for contacting the other said opposite leg portions of said pivoting U-shaped member.

4. The unlocking device of claim 3, wherein said second uniform linear transverse contact surface and said third uniform linear transverse contact surface each have a width greater than the width of said door unlocking portion of said parallel opposite leg portions of said U-shaped member.

5. The unlocking device of claim 3, wherein said curved arm receiving slot of said compression recoil arm, has sufficient length to permit about full closure of said door when said door lock is engaged.

6. The unlocking device of claim 3, wherein said curved arm receiving slot of said compression recoil arm has a tapered width sufficient to accommodate said curved arm having an increase in width from said ball hook to said mounting base.

7. The unlocking device of claim 1, wherein said thin flat elongated resilient member has sufficient resiliency to permit said integral compression recoil arm in the operative position to deflect towards the back of said door to permit said ball hook to enter said door unlocking portion and to recoil out of operative engagement with said U-shaped member.

8. The unlocking device of claim 7, wherein said thin flat elongated resilient member is made of rolled tempered steel.

9. The unlocking device of claim 3, wherein said each of said compression recoil arm finger members extend longitudinally from said compression recoil arm fulcrum corner in an arch.

10. The unlocking device of claim 3, wherein the distal end of each of said compression recoil arm members is retroverted in operative position back towards the catch mounting base.

11. The unlocking device of claim 1, wherein said compression recoil arm fulcrum corner forms a longitudinal fulcrum corner interior angle of from about 140 degrees to about 150 degrees between said side of door arched contact portion and said compression recoil arm when not in operative engagement with said door lock.

12. The unlocking device of claim 1, wherein said door stop contact corner forms a longitudinal door stop corner interior angle of from about 80 degrees to about 90 degrees between the front of door contact portion and said side of door arched contact portion.

13. The unlocking device of claim 1, wherein said handle portion longitudinally diverges from said front of door contact portion at an angle of from about 30 degrees to about 45 degrees.

14. The unlocking device of claim 1, wherein said handle portion has an offset grip portion with a width less than said front of door contact portion for providing ease in grasping said tool.

15. The unlocking device of claim 3, wherein said one finger member and other finger member each have a length about equal to the length of said door locking portion of said U-shaped member.

16. The unlocking device of claim 14, wherein said offset grip portion of said handle portion carries a hand protective layer.